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ABSTRACT

The effect of a combined teacher-parent behavior management program on inappropriate behaviors in the school and in the homes of five preschool handicapped children is evaluated. The teacher/trainer collaborated with the parents to select a target behavior (finger chewing, cup throwing, screaming, spitting, hand licking) for each child. Training in selected behavior management strategies was provided by the trainer via consultation in the home. Behavior management programs were introduced simultaneously in the home and in the classroom using an AB design. The results suggest that collaborating with parents in instituting a behavior change program may decrease the occurrence of undesired behavior both in home and school settings. Includes 42 references. (Author/DB)

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Abstract

The effect of a combined teacher-parent management program on inappropriate behaviors in the school and home of five preschool handicapped children was evaluated. The teacher trainer collaborated with the parents to select the target behavior for their child. Training in selected behavior management strategies was provided by the trainer via consultation in the home. The behavior management programs were introduced simultaneously in the home and in the classroom using an AB design. The results suggest that collaborating with parents in instituting a behavior change program may decrease the occurrence of the undesired behavior both in the home and in the school settings.

Effects of Parent Training on the Behavior Problems in the Home of Preschool Handicapped Children

During the last decade, there has been a surge of interest in parent participation in modifying behavior problems in the classroom and the home. Clements and Alexander (1975) asserted that attitudes regarding parent involvement in the education and socialization of their children, while usually encouraged by school personnel, run from skepticism to active involvement by parents educational and therapeutic services. The rather equivocal acceptance of teacher-parent collaboration poses a major problem to researchers and practitioners alike. Treatment that addresses problem behavior in one setting but ignores the equally serious occurrence of the problem in other settings, offers little chance of a successful and enduring outcome.

The need to provide comprehensive treatment for children engaging in disruptive or inappropriate behavior in various settings has received increased professional attention (Briener & Beck, 1984; Forehand & Atkeson, 1977; Moore and Bailey, 1973; Patterson, 1974). Indeed, Johnson and Katz (1973) concluded that gains in behavior will not necessarily generalize across situations unless support is provided in other settings in order to maintain them. Gable, Hendrickson, Algozzine, and Scully (in press) asserted that knowledge of children's behavior problems is incomplete without taking into account the relationship between the child and significant persons indigenous to the natural

environment. Consequently, there is growing recognition that it may be essential to engage both parents and teachers in child treatment in order to promote maintenance and generalization of changes in behavior across stimulus settings. Not surprisingly, there is mounting interest in teaching parents to modify their children's inappropriate behavior in the home through the application of various behavioral strategies provided by a parent trainer (Clements & Alexander, 1975).

Involving parents in carrying out behavioral interventions is desirable in that parents are present in the natural environment and over a long period of time during their child's life (Schulze, Rule, & Innocenti, 1989). Functioning in the role of consultant, a trained professional may assist parents in applying newly acquired skills to specific behaviors they want to change in the home (Clements & Alexander, 1975). Further, providing training in selected behavior modification strategies enables parents to help their child to transfer learning to other settings and to increase the maintenance and generalization of behavioral gains. With recognition of the need to positively and systematically engage parents in the intervention process has come increased efforts to encourage parents to serve as behavior change agents (Peter & Sexton, 1987). Contemporary parent training practices are predicated on the fact that skills acquired in training are applied by parents in home settings in the absence of professional support and ideally after formal

intervention is concluded (Nay, 1979).

Review of the Literature on Parent Training

Various authorities have posed that children with behavior problems are at risk for experiencing a range of negative consequences, e.g., social isolation, neglect, and physical abuse (Glaser & Bentovim, 1979; Turnbull & Turnbull, 1985). Use of parent training has been beneficial in reducing stress and enhancing behavior management skills to mitigate against the occurrence of these adverse events (Turnbull & Turnbull, 1985; Van Hasselt, Sisson, & Aach, 1987), facilitating skill acquisition and generalization (Cordisco & Strain, 1986; Forehand et al., 1979; Koegel, Glahn, & Nieminen, 1978), reducing maladaptive behavior (Forehand et al., 1979; Johnson, Whitman, & Barloon-Noble, 1978; Moore & Bailey, 1973; Peed, Roberts, & Forehand, 1977; Rinn, Bernon, & Wise, 1975), and in producing changes in parent perceptions of and attitudes toward their children (Forehand & King, 1977; Forehand et al., 1979; Peed et al., 1977; Turnbull & Turnbull, 1985). In sum, accumulated evidence supports the opinion that positive outcomes can be expected with regular and exceptional children as a result of parent involvement in behavior change programs.

Efforts to alter parent-child problem interactions by teaching parents to use behavior management strategies generally have met with considerable success (Strain, Steele, Ellis, & Timm, 1982). Not only have parent-child interactions been

improved in the home and clinic settings (Strain, Young, & Horowitz, 1981), but also it has been shown that these behavior changes may persist in the absence of treatment and actually generalize to other stimulus conditions (Wahler, 1975). Mathews, Friman, Barone, Ross, and Christophersen (1987) reported on four mother-infant pairs who through parent instruction decreased to a low and stable rate dangerous infant behaviors. The children engaged in potentially dangerous behaviors during as much as 80% of the time observed. Following treatment, the behaviors decreased to near-zero. Careful explanation of procedures and ongoing support from the trainer was particularly important for these parents. Because the study contained time-out, time-in, and child-proofing the home as the three components for reducing dangerous behavior, it is difficult to determine what specifically accounted for the change in child behavior. In a similar study, Sanders and Glynn (1981) compared the effectiveness of three phases of parent training for parents whose preschool children presented persistent behavior problems. Parents were trained in behavior management techniques in the first phase, self-management techniques in the second, while the third phase included maintenance training in which no further cues, corrections, or feedback were given by the trainer. The findings showed the parent training program to be effective in reducing undesirable behaviors from 31.9% of baseline intervals to 3.1% in the final phase. A comparable study was reported by

Van Hasselt et al (1987). They implemented a program to bolster the behavior management skills of a mother of a four-year old child who suffered from severe developmental and physical disabilities. The behavioral program was effective in training the mother to make definitive commands, provide suitable positive attention, and to persist with commands during social interactions with the child. Following the introduction of parent training, considerable improvements in the child's compliance with mother's commands were observed (i.e., compliance increased from a mean of 18.5% in baseline to a mean of 55.6% during parent training). The child displayed decreased oppositional behavior and greater percentage of time on-task consonant with parents' acquisition of management skills. Parent and child behavioral gains were retained at a six-month follow-up assessment. In a related study conducted by Hanley, Perelman, Hoffman (1979), the parent of a 7-year old autistic child was trained to apply a combination of time-out and differential reinforcement of other behavior (DRO) to reduce stereotypic handwaving. This investigation demonstrated that it is possible for a parent in the home setting to effectively reduce a high frequency autistic-like behavior by using relatively simple procedures. The child in this study reduced handwaving from an average of 9 times per hour before treatment to an average of two times per hour after treatment.

Jackson, Salzberg, Pacholl, and Dorsey (1981) reported on

the effects of an intensive intervention program on the behavior of an aggressive, disruptive, and defiant 10-year-old boy. The mother was taught to give simple directions, to give praise and tokens for appropriate direction-following, and how to use simple time-out from positive reinforcement. During baseline, child inappropriate verbalizations averaged 41% when directions were given by the parent. Inappropriate parent verbalizations were given at a mean of 65% of the direction-following incidents, while parent praise following direction completion averaged 32%. During intervention, child inappropriate verbalizations averaged less than 1%, while parental inappropriate verbalizations fell to 3%, whereas praise averaged 100%. During withdrawal of treatment conditions, inappropriate verbalizations rose to an average of 16%, parental inappropriate verbalizations averaged 80%, and parental praise averaged 16%, respectively. Reintroduction of intervention resulted in a decrease of child inappropriate verbalizations to an average of 4%, parental inappropriate verbalizations decreased to an average of 13%, and parental praise again increased to an average of 100%. The parents also stated that after compliance was established other problem behaviors also decreased in the home. Similar results were obtained by Johnson et al. (1978). The effects of a set of reinforcement procedures upon the "autistic-like" behaviors of a four-year-old girl were studied. The study was conducted entirely in the home, with the mother and father serving as

change agents. Training was conducted in a semi-structured play setting using written and verbal instructions to teach the parents to use positive attention and time-out. Each parent independently employed trained procedures to manage the child's compliance versus inappropriate vocalizations, and noncompliance behaviors. During baseline, inappropriate vocalization with the mother ranged from 20-33% and averaged 29%; whereas, vocalizations with the father were more variable and ranged from 22-66% and averaged 44%. Following the introduction of intervention, the behavior was reduced with both parents to means of 6% and 10%, respectively. During reversal conditions, an increase in the behavior was observed at an average of 30% for the mother and 26% for the father. Reinstatement of treatment resulted in marked decreases in inappropriate vocalization (i.e., 8% with the mother and 7% with the father). During baseline, compliance with mother and father was 60% and 62% respectively. Following introduction of intervention, compliance increased markedly and averaged 86% and 90%. A return to baseline produced a sharp decline in compliance with each parent, while reintroduction of intervention again increased child compliance.

Peed et al. (1977) studied the effectiveness of a parent training program on the interactions of 12 mothers and their noncompliant children. Each mother-child dyad was assigned to either a treatment group or a waiting list control group. Parent training was conducted in a controlled learning

environment. Pre- and post-treatment measures collected consisted of clinic observational data, home observational data, and parent verbal reports. The findings suggested that both parents and children in the treatment group manifested substantial behavior changes in the clinic and the home, whereas the control group did not evidence changes over the waiting period. Further, findings that the behavior changes generalized to the home supported the effectiveness of the training program in making significant changes in the parent-child interactions in the natural environment. The fact that the training averaged about 10 hours for each mother-child pair also supported the efficiency of the program. Results of this study validate the assumption that mothers who participate in training can significantly increase their attentive behavior in the clinic and in the home. Both treatment and control group mothers showed positive changes on most of the parent verbal report measures.

Moore and Bailey (1973) studied the effects of a mother systematically cued via an FM wireless microphone to approve or disapprove of the "autistic-like" behavior of her three-year-old daughter. After baseline data were taken on preacademic problem behavior and social problem behavior, social contingencies were applied successfully to each problem area. When the mother applied the social contingencies the preacademic task was quickly established in the child, a result that was replicated with requests for social interaction. In the final phase, cueing was

withdrawn from both situations and the mother was able to maintain the child's improved behavior. An analysis of the mother's behavior suggested that her increased use of social punishment (reduction in punishment error) for undesirable behaviors was the major factor in promoting the child's increased responsiveness. Follow-up data collected seven months later showed that the improvements in behavior were maintained. This study indicated that a significant change in the "autistic-like" behavior of a young child could be achieved by changing the manner in which the mother interacted with the chid. It was also significant in demonstrating that parental control can be achieved in a short period of time with the consistent use of social contingencies alone. Even so, a notable feature of the investigation was that the parent never seemed to adjust to the presence of observers and therefore never interacted normally. This was noted by the observers and commented upon by the mother, who stated that she knew she was not "acting normally" when the observers were there.

The effect of a parent behavior training program on child noncompliant behavior and parent behavior and attitude change was studied by Forehand and King (1977). Eleven children (mean age of 5.2 years) who had been referred for treatment of noncompliance and their mothers served as subjects. Each mother-child pair was individually treated in a short-term clinic behavior training program. The findings showed that the

behavioral criteria established were achieved in a mean of 9 treatment sessions and were maintained at a three-month follow-up. In addition, after treatment and at the three-month follow-up, the mothers observed their children as being better adjusted than prior to treatment. A comparison of the treatment group to a nonclinic "normal" sample, indicated that the behavioral training brought forth parent perceptions regarding their children's adjustment that did not differ greatly from those that the parents of the nonclinic sample had toward their children.

Cordisco and Strain (1986) evaluated a multicomponent parent training program which stressed the acquisition of general training strategies on the ability of the parents to generalize learned skills from an academic task school setting to a structured play setting in the home. All the parents indicated an interest in acquiring compliance training techniques and difficulty in managing their child's behavior. Training focused on didactic teaching of a single parent target behavior, trainer modeling of the correct behavior procedure, videotaped observation setting with the parent working with the child, and a video-feedback session to discuss appropriate and inappropriate use of behavioral strategies. Findings demonstrated that all parents showed an increase in the correct use of behavioral strategies in the school (training) setting. All the children improved their compliance 20-50% to parents demands during school

training. Also, an increase of 20-40% in appropriate behaviors was observed. In the home child compliance and appropriate behaviors increased from slightly to 100%. Further, the parents demonstrated retention of the previously learned skills over a 12-month follow-up period. In a comparable study, Cordisco, Strain, Laus, Mazer, and Hanna (1988) examined the effectiveness of a multicomponent parent training program on parents ability to maintain acquired skills over time. Three mother-child pairs participated in the study. The children ranged in age from 2-4 years and were identified as autistic. Training in behavior management skills was presented in a multiple baseline design across settings. The findings suggested that the use of instruction that stresses the acquisition of general as opposed to task-specific training procedures may assist with generalization of parenting skills from one setting to another. However, desirable generalization (i.e., stable, desired rates of parent target behaviors paired with stable desired rates of child target behaviors) was not observed to occur without additional intervention. Finally, the Cordisco et al. (1988) study indicated that once intervention had been introduced in all settings, parent and child target behaviors were maintained over a year's time. A similar study was conducted by Forehand et al. (1979). They executed two experiments to examine temporal and setting generality of treatment effects arising from parent behavior training. Experiment 1 included 10 mother-child dyads

who had been referred for treatment for the child's noncompliance. The children ranged in age from 3-8 years. All training occurred in the clinic setting. Pretreatment, post treatment, six-month follow-up, and 12-month follow-up data were collected in the home by independent observers. The findings showed that the majority of parents demonstrated changes in the expected direction (increase in rewards, contingent attention, and child compliance and decrease in commands to which the child has no opportunity to exhibit compliance, and envisioned child deviancy on a questionnaire measure). The results also indicated that treatment in a clinic setting created parent and child behavior change in the home as well as affecting an attitude change in the parents. For the most part, these gains were maintained at the 6- and 12-month follow-up checks. In experiment 2, eight children (aged 5-7 years) and their mothers were treated in a clinic setting for noncompliance. Data were collected before and after treatment in the home and in each child's school. School data were also collected for untreated control children. The results revealed that changes in child behavior in the home and in the quantity of the reinforcement received in the home by the child are not related with significant behavior change in the school. In the home, both parent and child behaviors and parent perceptions changed in the predicted direction. This suggested that when parent training is implemented, observing the child's behavior in settings other

than the home should be undertaken so that decisive data regarding behavioral contrast effects can be reproduced. In a related study by Koegel, Glahn, and Nieminen (1978), two experiments were employed to assess the generalized effects of several different parent-teacher training programs. In the first, it was found that a brief demonstration of how to teach an autistic child new behaviors was adequate to train parents to teach their children those behaviors. Generalization to new child target behaviors did not take place. Another parent training procedure which did not demonstrate how to teach any one specific child behavior, but was based on teaching the use of general behavior management strategies, was effective in teaching the parents how to teach new child target behaviors. The second experiment provided an analysis of the individual effects of several components of the generalized training program. The findings indicated that videotaped illustrations of the procedures without the presence of a master teacher, were sufficient to successfully train the parents. Viewing of the whole package was necessary before the parents were able to positively influence their child's behavior. The study as a whole indicated the importance of obtaining multiple measures of the effects of parent and teacher training programs which include measures of acquisition and generalization of both parent and child behaviors. Viewed together, a major point of these experiments was that training programs can produce differential

improvements in one or more areas of both parent teaching skills and in the behavior of targeted children. A comparable study by Sanders and Dadds (1982) examined the effects of two parent training programs on the generalization of parent and child behaviors to extra training sessions. Five parents of preschool children exhibiting behavior problems were sequentially exposed to a training program that included teaching the parents how to use descriptive praise and five different management strategies. A multiple baseline across subjects design was employed, with observational data collected in two different settings, a training setting, and a range of generalization settings in the home and community. Results showed that parents generalized acquired skills to nontraining settings, but only one of the five parents was effective in decreasing levels of deviant child behavior. Following the introduction of planned activities and behavior-specific intervention resulted in further improvements in child behavior in both training and generalization settings for three more parents and maintained decreased levels of deviant behavior for a fourth parent. Neither training phase was effective in modifying problem behavior for the fifth child.

O'Dell, Flynn, and Benlolo (1977) reported on 40 persons who took part in a workshop intended to teach the basic skills essential for carrying out a child behavior management program. Before the workshop, each parent underwent three types of experiences: didactic pretraining in basic behavior management

principles, placebo pretraining, or no pretraining. Approximately 30 outcome measures fell into five categories: parents' ability to perform behavior management strategies taught in the workshop, their involvement in the training, whether or not they employed their skills with their child, attitudes toward the training, and self-reported use of skills after training. Findings indicated the parents receiving pretraining in behavioral principles did not show superior performance on any of the outcome measures when compared with the other parents. Differences which were observed occurred primarily in the home implementation procedures and inclined to be in favor of the shorter training program which centered only on behavioral performance skills.

A follow-up study of 40 children who were clients of the Regional Intervention Program from 1969-1978 was conducted by Strain et al. (1982). As three-, four-, and five-year-olds, these preschoolers exhibited severe behavior problems. The parents were taught differential attention procedures to manage their children's behavior. Multiple assessments were conducted on these children who had not been involved in treatment for a period of three to nine years. Results of this study suggested that the social interactions of the children in the home were overwhelmingly positive and that their social behavior was by and large appropriate. The parent behavior in the home setting was consistent with the child management skills taught many years

ago. Strain et al. (1982) predicted that if the intervention experience was not responsible for the appropriate behaviors of the children at follow-up, then maturation is the most likely rival hypothesis. A similar follow-up study was conducted by Baker, Heifetz, and Murphy (1980) who recontacted 95 families who had participated in a 20-week behavioral training program for parents of retarded children (aged 3-14 years) 14 months after the training was concluded. In the original study, the findings were encouraging: the trained families showed significantly greater improvements in self-help skills and in mother's knowledge of teaching principles when compared to control families. In the follow-up study, an in-home interview and several questionnaires assessed maintenance of child gains and parents' knowledge of behavioral principles, as well as the extent and quality of continued and new programming, envisioned obstacles to home teaching, and envisioned effects of the training program. Findings indicated that parents had continued to use their knowledge of behavioral principles, and the children had retained their original skill gains. Many families had introduced some teaching of new skills, although few parents executed regular formal teaching sessions. Almost one-half of the families were classified as having continued to engage in useful or very useful teaching. The main envisioned obstacles to home-teaching were limitations in time, in the child's learning ability, in the parent's teaching ability, and in professional

support. Another related study was reported by Rinn, Vernon, and Wise (1975) who presented a three years evaluation of a class conducted by a community mental health center in which the parents of behavior problem children were taught the principles of behavior management. Parents were referred due to child management problems such as incontinence, temper tantrums, and school attendance deficits. There were 639 children involved in the program and their mean age was 8.7-years-old. At the end of the final training session, 92% of the program sheets showed 68-100% goal attainment for the specified problem behavior (arbitrarily labeled "much improved"), 3% showed 33-67% goal attainment (moderately improved), and 5% showed 0-32% goal attainment (not improved). These findings indicated that the training class was effective at the final session. Overall, 54% of the parents reported data at follow-up showing "much improved". Follow-up data on the overall behavior of the problem child indicated that 41% were "much improved", 47% were "moderately improved", and 12% were "not improved". Also reported at follow-up was that 84% of the parents stated they had not sought further therapy for their problem child.

There is little or no empirical evidence to support the contention that parents of children who evidence severe behavior problems are able to reduce the frequency of the undesirable behavior without a parent training program. Schulze et al. (1989) argued that although it is desirable for parents to teach

their children appropriate behavior skills, they may not be willing or able to commit the time required to learn appropriate strategies and then carry them out over a long period of time to have an impact on the child's behavior. McMahon, Forehand, Griest, and Wells (1981) studied 48 parents and their young clinic-referred behavior problem children in order to identify pretreatment factors which could distinguish between which parent-child pairs drop out of behavioral training and which ones finish treatment. All participants completed the pretreatment assessment. Later, 8 dropped out of the treatment program. A series of analyses were conducted to ascertain if pretreatment parental adjustment, parental perceptions of child's adjustment, child behavior, parent behavior, or demographic characteristics differentiated between parents who did and did not withdraw from the training program. The findings revealed that parents who dropped out of training differed from those who finished the program in three areas: (a) socioeconomic status, (b) parental adjustment, and (c) parental commands. An interesting finding was that child behavior, the original referral problem, did not differ between the two groups. One implication is that professionals involved in parent training should be aware that parents from low socioeconomic backgrounds and who are depressed are more likely to drop out of training. Further, treatment efforts may need to be concentrated initially on parent rather than child problems and/or establishing contingencies with

parents whereby completion of a part or all of training will result in positive outcomes for the parents (McMahon et al., 1981). In support of this contention, in a survey of 31 parents of children with disabilities enrolled in a preschool program, Winton and Turnbull (1981) found that only 13% said they would choose to be involved in parent training programs. In all, parent training is a process that not only needs to be effective and meet parental constraints but also be actively promoted with often resistive parents.

Notwithstanding the burgeoning body of research that substantiates the worth of parent training, actual parent contact by special education teachers is extremely limited; and, the frequency of the contact is primarily a function of administrative mandates for progress reports to the parents (Clements & Alexander, 1975). Another critical aspect of parent-teacher involvement that is too often missing is preparation of teachers to successfully train others in behavior management techniques. Various authors have argued that teacher training programs should include so-called "indirect skills" that pertain to the collaborative process (Gable, Hendrickson, Warren, Evans, & Evans, 1988; Friend, 1985; Idol-Maestas & Ritter, 1985). Unfortunately, scant information is available on whether teacher-parent collaboration on behavior problems that occur in the classroom and home and consulting with parents on the use of appropriate behavior strategies will produce enduring changes in

child behavior within and across settings.

Therefore, the present study was designed to gain additional information on parent training by public school personnel. A program was introduced in which parents of preschool children displaying behavior problems in the classroom and in the home were instructed in the use of behavior management strategies. The aim was to eliminate inappropriate behavior within both home and school settings. It was assumed that documenting collaborative processes that served to positively influence not only the quality of the teacher-parent interactions but also the behavior of selected children might contribute to what is known about teacher preparation needs. In sum, this study sought to determine the effectiveness of a teacher-parent management program applied in the classroom and in the home to reduce undesirable behavior of preschool children.

Method

Subject and Settings

Three mother-child pairs, one father-child pair, and one babysitter-child pair served as subjects for this study. All of the children were enrolled in a self-contained special class for the preschool handicapped. In Family 1, the child was a two-year, six-month old developmentally delayed male. The mother was 42 years old, separated, with 10 years of education, and employed part-time. Also living in the household were two siblings, a ten-year-old male and a 17-year-old male. Problem behavior

demonstrated by the child across settings and identified as the treatment target was finger-chewing.

In Family 2, the child was a three-year, two-month old macrocephalic, developmentally delayed male. The father was 25 years old, with 12 years of education, and employed full-time during the day. Also living in the household was the mother who was 21 years old, with 12 years of education, and employed full-time during the day. Problem behavior demonstrated by the child across settings and identified as the treatment target was cup throwing during meals.

In Family 3, the child was a four-year, 11-month old severely language delayed and behavior disordered male. The mother was 26 years old, with 12 years of education, and employed part-time. Also living in the household was the father who was 25 years old, with 12 years of education and employed full-time. Problem behavior demonstrated by the child across setting and identified as the treatment target was licking his hand while holding it in front of someone's face.

In Family 4, the child was a four-year, 11-month old multiple handicapped male. The babysitter was 55 years old with 14 years of education. Living in the household was the mother who was 29 years old, with 16 years of eduction, and employed full-time, and the father who was 35 years old, with 16 years of education, and employed full-time. Problem behavior demonstrated by the child across settings and identified as the treatment

target was screaming.

In Family 5, the child was a three-year, 8-month old severely language delayed female. The mother was 30 years old, with 16 years of education, and employed part-time. Also living in the household was the father who was 34 years old, with 16 years of education, and employed full-time, and one sibling, a six-year-old female. Problem behavior demonstrated by the child across settings and identified as the treatment target was spitting on people.

The classroom setting consisted of a self-contained program serving 8 preschool handicapped children, with one teacher assistant, and one preschool teacher. The classroom was approximately 27 feet long and 39 feet wide. The furnishings consisted of two teacher desks, two adult chairs, an 8 x 5 foot rug, one preschool-sized kidney table, one preschool-sized rectangular table, 15 preschool chairs, a play kitchen area, and a therapy corner with a mat and equipment. The classroom was located in a regular elementary school building in the kindergarten wing.

Data Collection Procedures

Frequency data were collected on all five subjects. For students 1, 3, 4, and 5, data was collected during the three hour interval in the classroom and during a parent selected three hour interval in the home. Home data was collected on an average of three times per week while classroom data were collected daily.

Data for student 2 was collected during a 30 minute snack-time in the classroom and during a 30 minute dinner-time in the home. Targeted behaviors were recorded by a trained observer by placing a slash on a data collection form each time the targeted behavior occurred.

Parent Training Procedures

Each parent involved in the intervention process in the home along with the babysitter participated in two one-hour training sessions conducted by the preschool teacher on basic principles of behavior management. These training sessions were conducted prior to the introduction of intervention into the home. The sessions focused on behavior management strategies referenced to target behaviors. First, parents were asked to focus on behaviors that had been identified as problematic in both the home and the school setting. Each parent was instructed on how to identify, define and measure the behavior, how and when to praise their child, and how to structure the home environment to decrease inappropriate behavior. The training format included: discussion, role-play exercises coupled with corrective feedback, verbal stimulation activities, and trainer modeling of the correct behavior strategy. Supplementary reading material on behavior management principles and how to apply them was provided by the teacher trainer.

Procedures to decrease targeted inappropriate child behaviors were individually selected for each parent-child dyad

and included: extinction, interruption and redirection, overcorrection, and response-cost. Appropriate use of positive reinforcement of replacement behavior was included in the plan for each child.

Experimental Design

For both home and school settings, each child was first observed with no attempt at intervention to establish a baseline measure of behavior. Using an AB design (Hersen & Barlow, 1976) with across subject replication, each parent was initially introduced to an intervention procedure that was employed simultaneously in the classroom and in the home. Baseline data was collected for four sessions in the home and five sessions in the classroom. Next, the intervention was introduced and data collected to determine if the behavior program would be successful both in the classroom and in the home.

Interrater Reliability

Interrater reliability was established at 85% prior to initiating data collection and then calculated during approximately 20% of the sessions during the intervention phase in the home. During reliability sessions, two trained observers simultaneously and independently observed and recorded data on the target behavior(s).

Results

Interrater Reliability

Interrater reliability was determined by dividing the

smaller number of target behaviors by the larger number for each observation and multiplying by 100. For Student 1, reliability figures ranged from 83.33% to 100% (with a mean of 94.45%). For Student 2, reliability figures ranged from 94.44% to 100% (with a mean of 99.31%). For Student 3, reliability figures ranged from 88.89 to 100% (with a mean of 96.62%) For Student 4, reliability figures ranged from 92.30% to 100% (with a mean of 96.70%). For Student 5, reliability figures ranged from 77.78% to 100% (with a mean of 94.78%).

Insert Figures 1 and 2 About Here

Child Target Behavior

Figure 1 shows the frequency of inappropriate behavior observed in the preschool classroom and in the home for Student 1. A gradual decrease in undesirable behavior was observed in both settings. During baseline conditions, the target behavior occurred at an average rate of 7.06 times per hour in the classroom and 8.41 times per hour in the home. The introduction of intervention resulted in a sharp decrease in the occurrence of the target behavior.

Figure 2 shows the frequency of inappropriate behavior observed in the preschool classroom and in the home for Student 2. An immediate increase in undesirable behavior was observed in both settings following the introduction of intervention.

Desired rates of the target behavior were not observed to occur until session 40 in the classroom and session 16 in he home. Then a gradual decrease in the undesirable behavior was observed in both settings. During baseline conditions, the target behavior occurred at an average rate of 11.2 times per half hour in the classroom and 9.75 times per half hour in the home. Concomitant to introduction of the intervention, a gradual decrease in target behavior led to its virtual elimination.

Insert Figures 3 and 4 About Here

Figure 3 shows the frequency of inappropriate behavior observed in the preschool classroom and in the home for Student 3. An immediate increase in undesirable behavior was observed in both settings following the onset of treatment. Desired rates of the target behavior were not observed to occur until session 29 in the classroom and session 11 in the home. Then a gradual decrease in undesirable behavior was observed in both settings. During baseline conditions, the target behavior occurred at an average rate of 6.86 times per hour in the classroom and 7.33 times per hour in the home. Intervention resulted in a decrease in the occurrence of the target behavior that culminated in its near extinction.

Figure 4 shows the frequency of inappropriate behavior observed in the preschool classroom and in the home for Student

4. Desired rates of the target behavior were not observed to occur until session 14 in the classroom and session 7 in the home following the onset of treatment. Then a gradual decrease in the undesirable behavior was observed in both settings. During baseline conditions, the target behavior occurred at an average rate of 8.06 times per hour in the classroom and 9.5 times per hour in the home. The introduction of intervention resulted in a sharp decrease in the occurrence of the target behavior.

Insert Figure 5 About Here

Figure 5 shows the frequency of inappropriate behavior observed in the preschool classroom and in the home for Student 5. A gradual decrease in undesirable behavior was observed in both settings. During baseline conditions, the target behavior was occurring at an average rate of 4.13 times per hour in the classroom and 4.25 times per hour in the home. The introduction of intervention resulted in a decline in the occurrence of the target behavior to its near elimination.

Follow-Up Data

Conducting the study in multiple home settings and at the end of the school year limited the collection of follow-up data to two students over a 12-week period after the conclusion of the intervention program. The data on Student 2 indicated that the average rate of occurrence of the target behavior was .11 times

per half hour in the classroom and .21 times per half hour in the home (see Figure 6).

For Student 5, follow-up data were collected over a 4-week period after the intervention program was concluded (see Figure 7). The data indicated that the average rate of occurrence of the target behavior was 0 times per hour in the classroom and .10 times per hour in the home.

Insert Figures 6 and 7 About Here

Discussion

The major result of this study was the successful intervention stemming from teacher-parent collaboration on the problem behaviors of five preschool handicapped children. Teacher consultation on the correct use of extinction, interruption and redirection, overcorrection, and response-cost greatly decreased the rate of problem behaviors in both the classroom and home settings. These findings add further credence to the opinion that collaborating with parents on identifying problem behavior in the home and in the preschool classroom, and then working with parents on the correct use and application of behavior strategies can decrease substantially the rate of the undesired behavior within and across settings.

The decrease in inappropriate home and classroom behavior subsequent to parent training replicates the treatment effects

obtained by Hanley et al. (1979), Mathews et al. (1987), Sanders and Glynn (1981), and Van Hasselt et al. (1987) who used similar training tactics. However, the present study represents a significant expansion of these earlier efforts. First, the teacher trainer collaborated with the parents in order to obtain a common target behavior in the classroom and in the home. Second, the teacher trainer applied these same collaboration skills with the parents in the home to teach the use of behavior management techniques. Finally, intervention(s) was introduced simultaneously in both settings in order to establish a more consistent approach to child management.

The positive effects of a collaborative, teacher and parent-mediated intervention program may have been related to several factors. Specifically, the parents requested assistance with their child's problem behavior, a strong indication that they were willing to be actively involved in the intervention process. Another factor was that the teacher conducted a home visit two times per month as a requirement of the special preschool program. These visitations provided the teacher ample opportunity to become familiar with the family and afforded the occasion to observe parent-child interactions in the home.

In the present study, each child displayed problem behaviors common to both the preschool classroom and the home setting. The magnitude of the behavior problems was not as significant as the fact that they were socially unacceptable at any rate (Gable

et al., 1988). Intervention introduced simultaneously in both settings focused on tactics specifically tailored to each child's presenting problem(s) previously identified by the parent and observed in both settings. An immediate increase in targeted problem behaviors after the introduction of intervention for Students 2, 3, and 4, may be explained by the fact that extinction and overcorrection typically result in a "paradoxical affect" -- an increase in the undesired behavior until after a sufficient period of intervention when the behavior will decrease (Walker & Shea, 1988). Even so, parents were able to sustain application of newly acquired behavior management techniques to targeted child problem behaviors until success was achieved in the home.

Findings of the present study suggest that it is reasonable to assume that a teacher-parent partnership assisted in causing a substantial decrease in undesirable child behavior in the home and in the classroom. Although not commonpractice among public school personnel, collaborating with parents in identifying the targeted behavior they wished to treat served to actively involve the parents in the overall intervention process. And, training parents in child-specific behavior management strategies and simultaneously introducing the strategy in both settings provided a consistent approach to intervention.

Although the present study contributes to the available literature on teacher-parent collaboration, one limitation was

the inability to conduct long term, follow-up evaluation. The follow-up results reported for students' 2 and 5 should be interpreted with caution as the school year had ended and there was no opportunity to continue to measure the maintenance of treatment effects. In the future, it would be useful to obtain a fuller, more complete measure of the durability of treatment effects.

Only recently have special educators begun to receive training in the area of "indirect services" -- that is , to collaborate with peers and parents in resolving learning and behavior problems (Gable, Young & Hendrickson, 1987). Limited research does suggest that the consulting teacher must employ proven techniques for promoting full parental involvement in order for any intervention to be successful (Friend, 1985; Idol-Maestas & Ritter, 1985). There is widespread recognition of the importance of engaging persons indigenous to the child's natural environment in the intervention process in order to promote maintenance and generalization of behavioral gains (Gable et al., 1988). Although few special class teachers have yet been trained in the so-called "process skills" that have proven effective in collaborating with colleagues and parents, accumulated research clearly supports this aspect of teacher preparation. While parents are no longer excluded from dealing with behavior problems their role is still too often ignored (e.g., Gartner, 1988). Even so, the establishment of a school-home programming partnership appears critical to the successful treatment of many children's behavior problems.

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Figure Captions

Figure 1. Frequency of Finger Chewing

Figure 2. Frequency of Cup Throwing

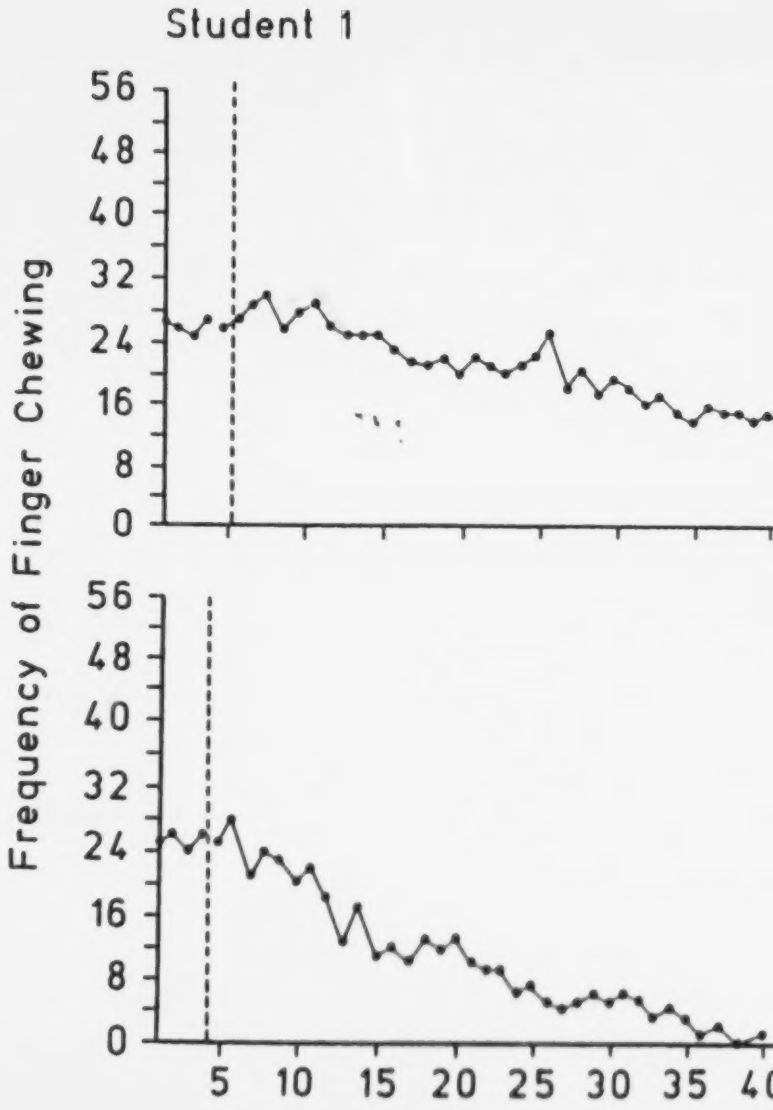
Figure 3. Frequency of Hand Licking

Figure 4. Frequency of Screaming

Figure 5. Frequency of Spitting

Figure 6. Follow-up Data on Student Cup Throwing

Figure 7. Follow-up Data on Student Spitting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Frequency of Finger Chewing
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24
16
8
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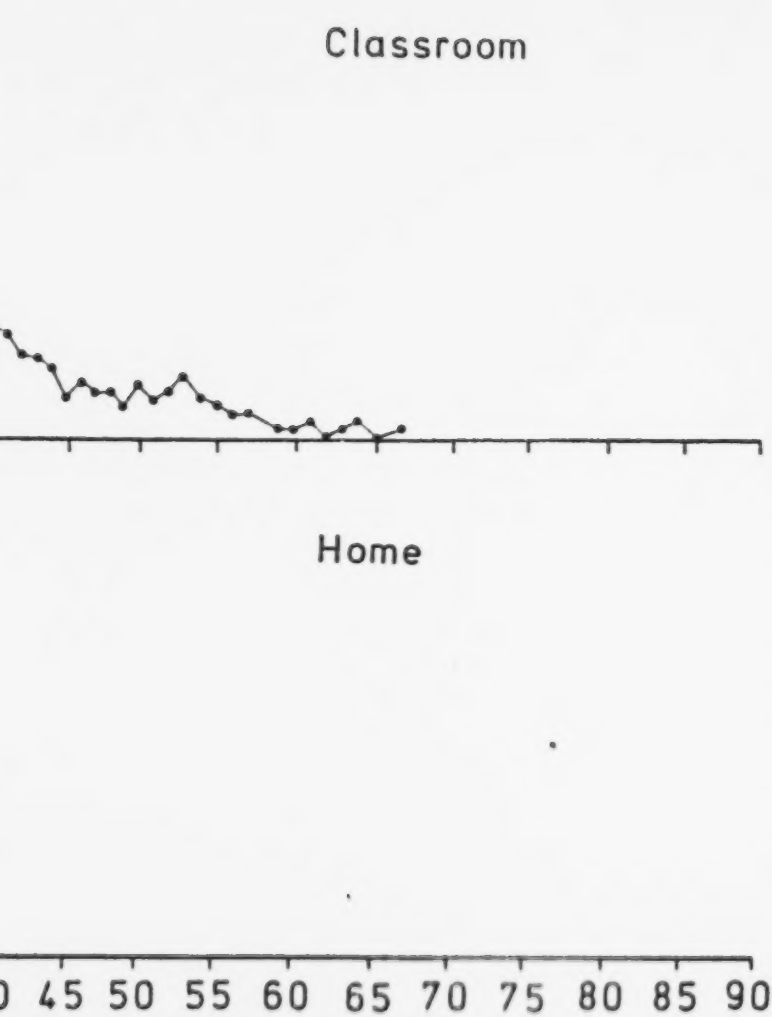
5
10
15
20
25
30
35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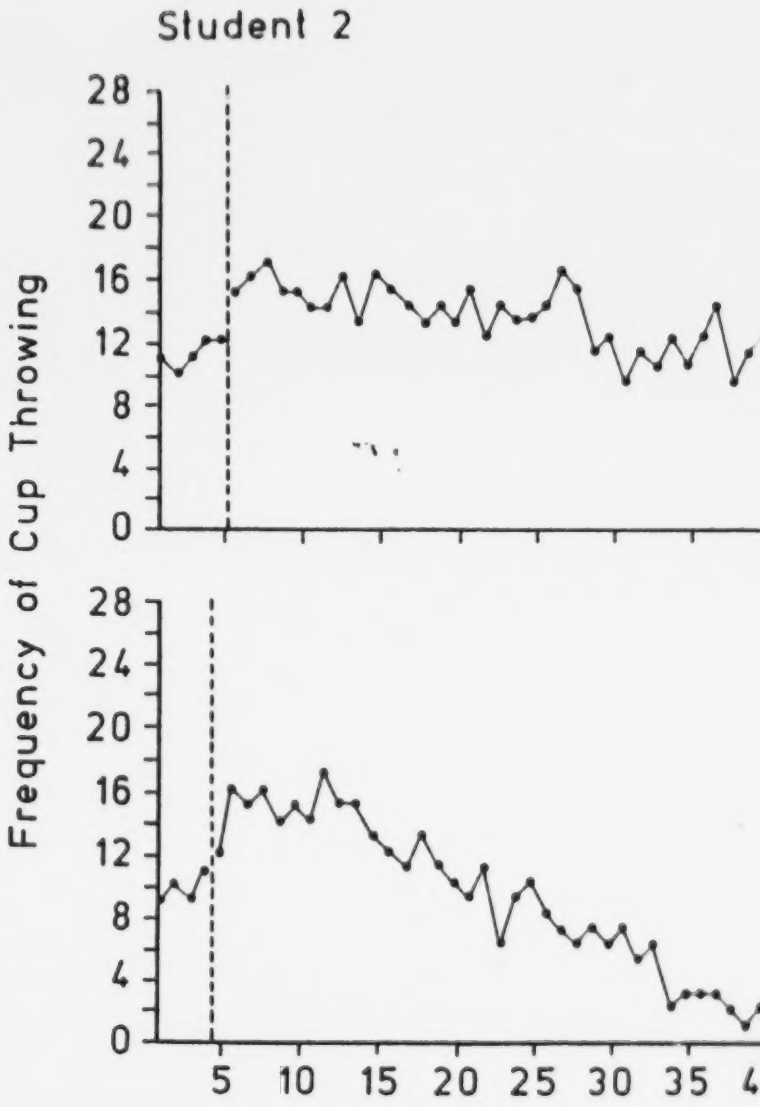
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Frequency of Cup Throwing
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24
20
16
12
8
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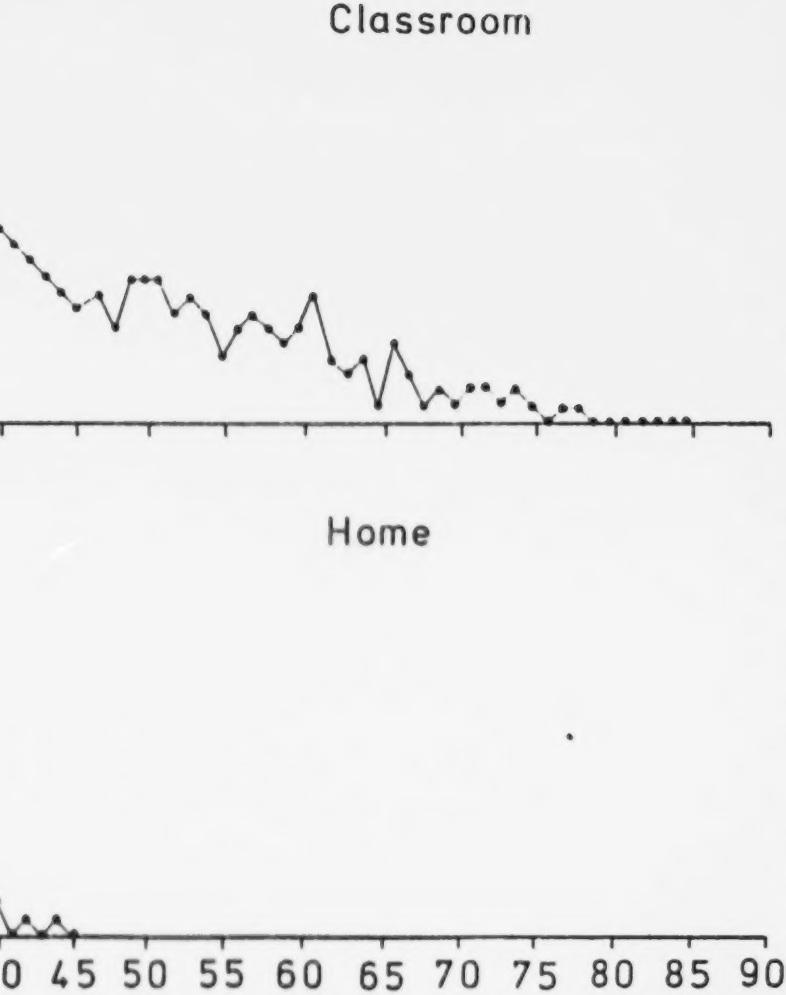
28
24
20
16
12
8
4
0
5
10
15
20
25
30
35
4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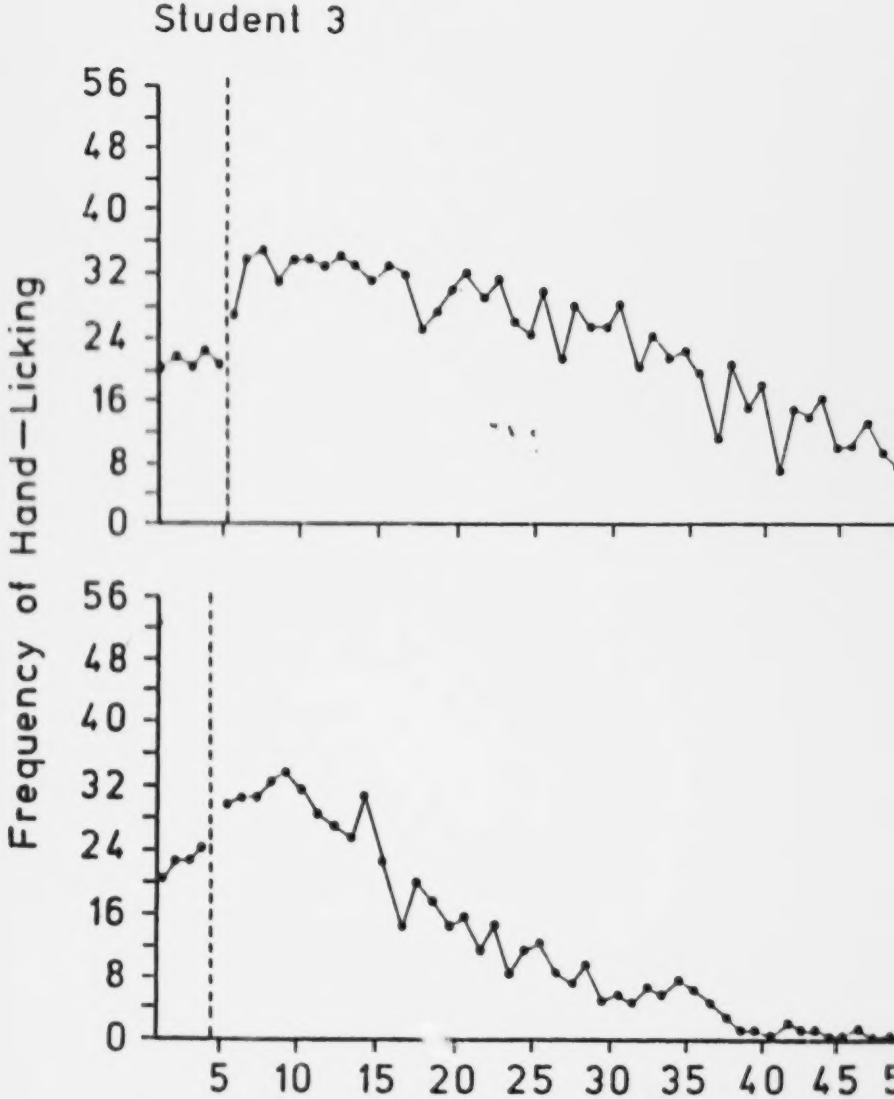
Student 3
Frequency of Hand—Licking
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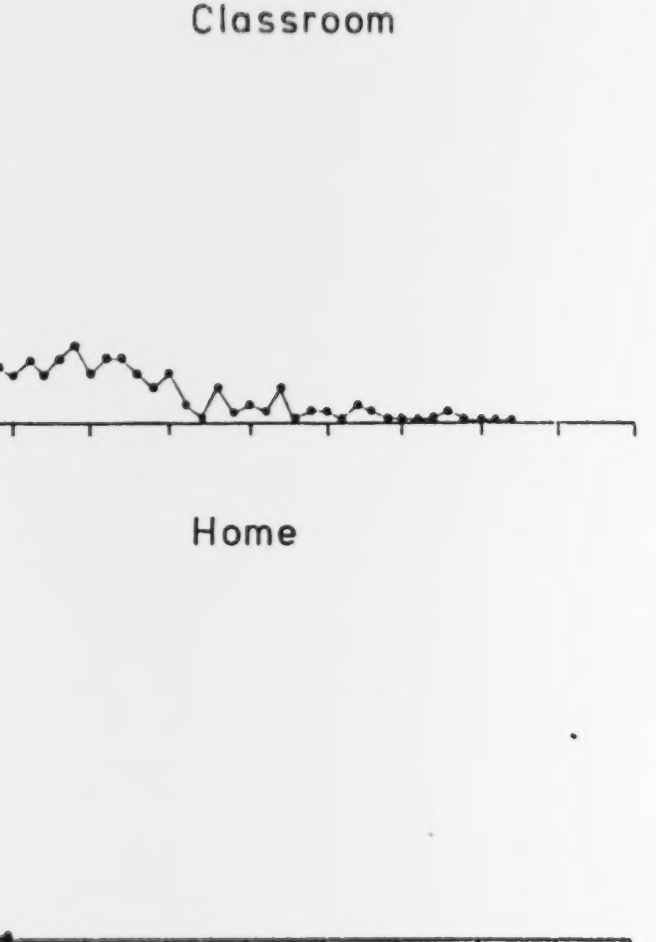
48
40
32
24
16
8
0
5
10
15
20
25
30
35
40
45


Classroom
Home
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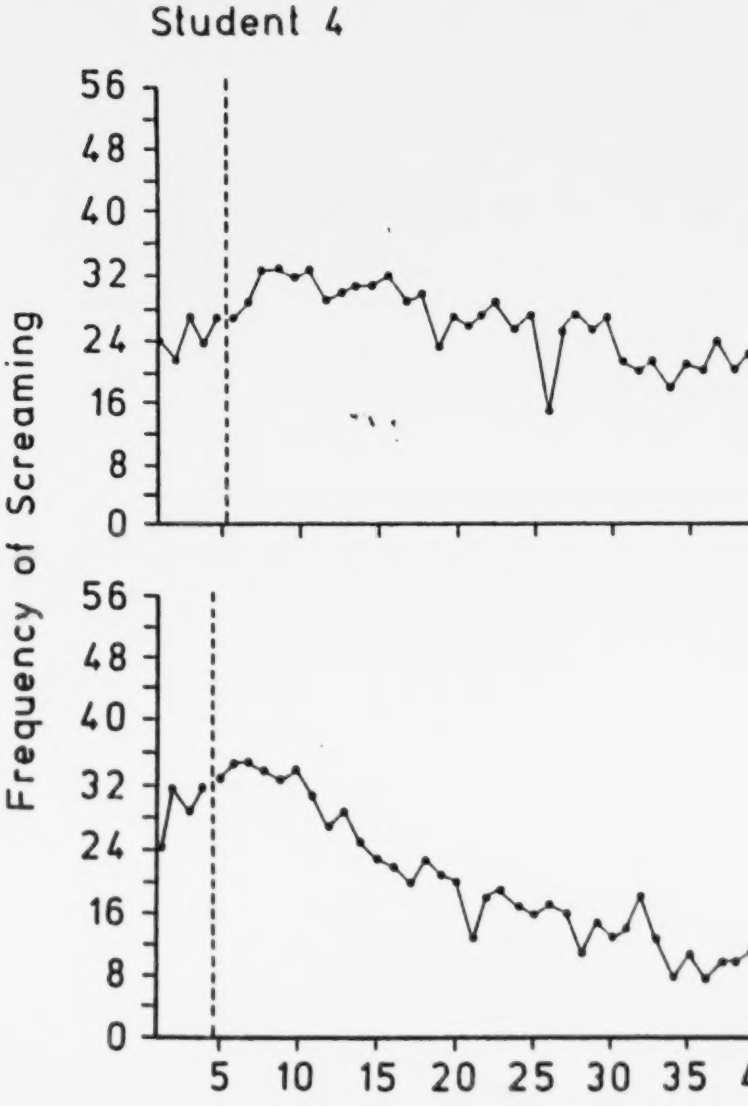
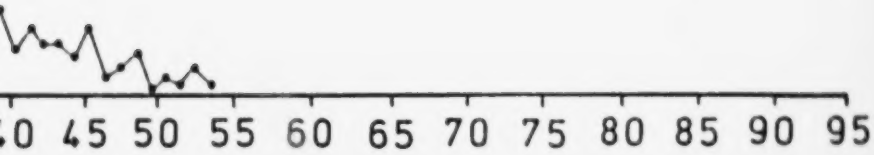
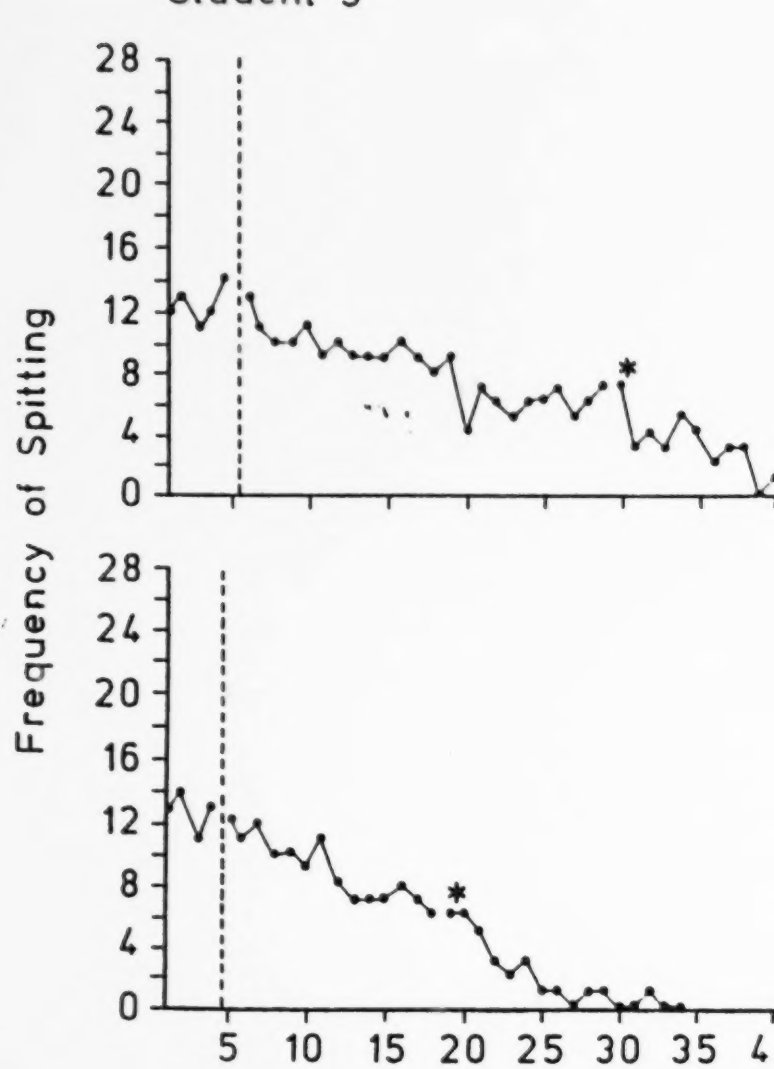

Student 4
Frequency of Screaming
56
48
40
32
24
16
8
0
5
10
15
20
25
30
35

Classroom

Home

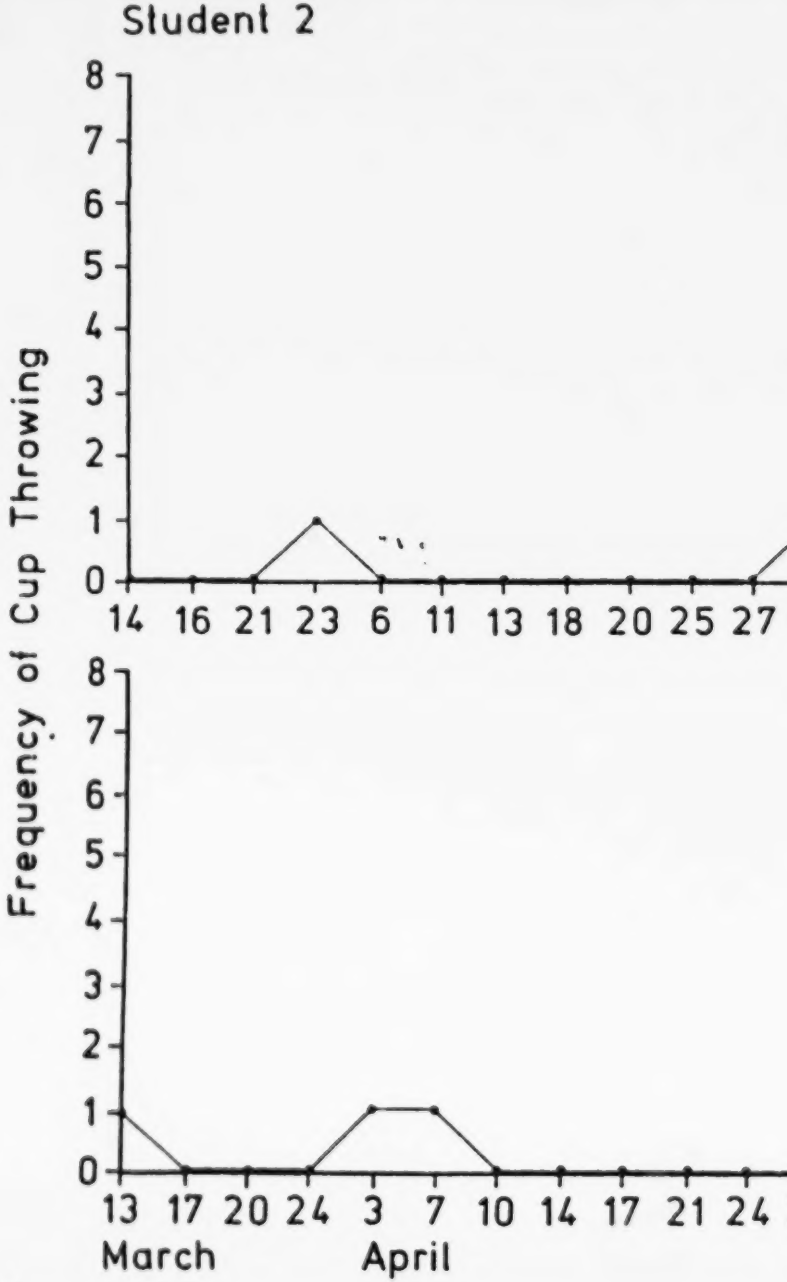



Student 5
Frequency of Spitting
28
24
20
16
12
8
4
0
5
10
15
20
25
30
35

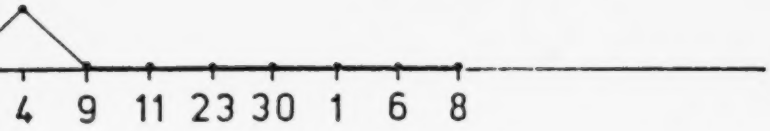
Classroom

Home

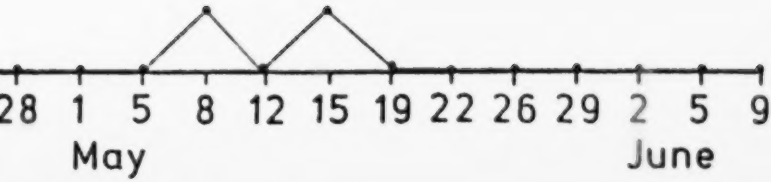
0 45 50 55 60 65 70 75 80 85 90

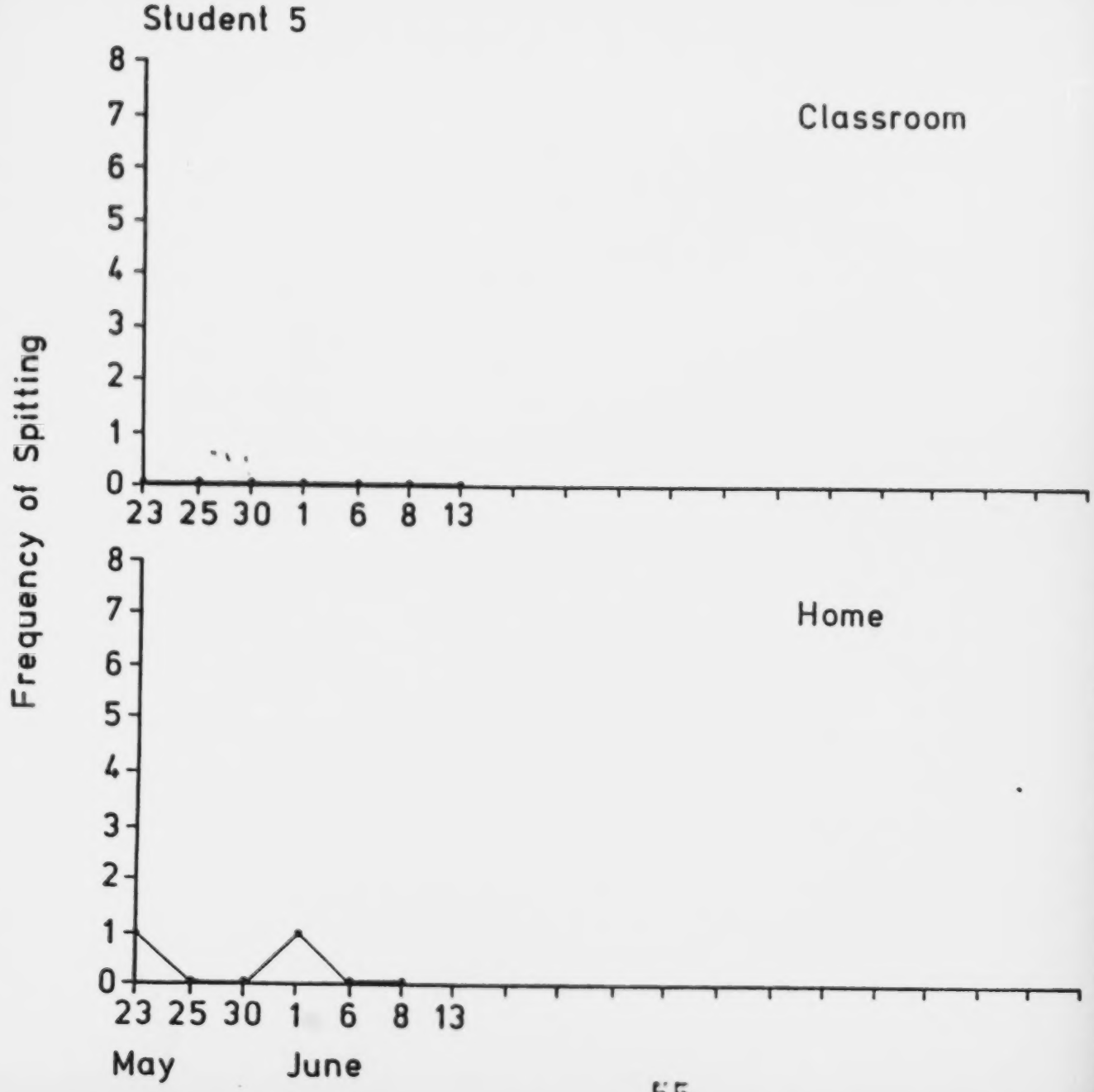

Student 2
Frequency of Cup Throwing
8
7
6
5
4
3
2
1
0
14 16 21 23 6 11 13 18 20 25 27
13 17 20 24 3 7 10 14 17 21 24
March
April

Classroom



Home




Student 5
Classroom
Home
Frequency of Spitting
8
7
6
5
4
3
2
1
0
23 25 30 1 6 8 13
May
June